THE BIOENERGY international

Local news spread world wide

INFONAVIGATOR

Make your Choice of Subject and Selection

Frontpage

SEARCH

Editorial through editor

the Connection directly from writer

Fuels
Prod. & Tecnology
Housing
Heat & Power
Transportation
Market
Politics
Environment
Other

Letters & Releases
Reports & Litterature
Calendarium
Links
People and Companies
Other
Discussion
Language

SPECIAL SECTION

Country Reports
Photo Archive
Facts
AEBIOM

Above You can see the Info - Navigator that is used in the internet version of the Bioenergy International.
Articles there are distributed in two ways. Either through the Editorial where all articles are produced or judged by an editor or through the Connection section, where professional can publish information concerning bioenergy. It is also possible to publish information in many major languages.

Welcome to participate in the Bioenergy International

World Bio-fuel trade is rapidly increasing

In Hargshamn 150 km north of Stockholm are around 10 bio-fuel companies active. Some also uses the area in the harbour for storage of their fuels and two companies have also built specific buildings for the storage of pellets.
page ...3

Russian timber company Lemo presents their large scale ambition for trading with Europe, partly because of the force that the flexible mechanisms according to the principles in the Kyoto agreement gives. Lemo do also presents other projects for the development of bioenergy in Russia
page ... 7

Three large scale projects regarding combined heat and electricity is presented inside the magazine.
- *In the article High Performance Cogeneration Electrowatt-Ekono presents a project with the power heat ratio of 49 % in Iisalmi, Finland* *... page 15*
- *In the article Energy from Waste presents Foster Wheeler t heir refined concept for waste processing* *... page 16*
- *Babcock &Wilcox Vølund presents t heir development of gasification and the level of today technology for combined heat and power* *... page 17*

Pellets stoves *...page 12*

Welcome to another issue of the Bioenergy International, paper version. As You probably know, we do also have an internet based magazine which You will find at www.bioenergyinternational.com

Since the Bioenergy International is a commercial product it has to be financed by advertisers. In this number we have 26 participating companies. We look forward to following issues based on good cooperation with readers and advertisers. Please share with us Your ideas and views either directly on www.bioenergyinternational.com or contact me, Ms Dorota Natucka or Ms Martina Sumenjak on mail or phone. You will find necessary contact adresses and telephone numbers on the back cover.

Lennart Ljungblom Editor and Publisher

PS Do You want a subscription? Just contact us and You will get the magazine directly by A-mail.

BIOENERGY international
www.bioenergyinternational.com

Fuel trading

Advertisers

Bioen. Conf Canada	23
Bühler	10
CPM	8
Elmia World Bio.	20
Ecoenergia	18
Enex	22
Firefly	14
Fulghum Fiberfuels	2
Kahl	14
Mebio	6
Meccanica	8
Mondial Bioenergie	21
Pacific Bioen. Corp.	14
Pelletsexpo	19
Pellets for Bioenergy	19
Råsjö Torv AB	14
Såbi	6
Talloil AB	24
Technibois	22
Vapo	4
Victam	19
World Bioenergy	20
Wärtsila	10

Editorial content

Hargshamn the biofuel harbour	3
Vapo expands	5
From sawdust to pellets	5
Agrobränsle in UK	
Russian Timber company Lemo expands into biofuel	7
Pelleting of wood	9
First Wood Pellet conference, UK	9
Japan pellet market	11
Pelletsstoves	12
To stage gasification	14
High performance cogeneration	15
Energy from Waste a refined concept	16
Gasification experience for combined heat and power	17
Evaluation of German Renewable Energy Source Act II	18
Introduction Reka	18
Explosion and fire-protection in practice	18
AEBIOM	19
International Slovak Biomass Forum	20
EC Campaign for take of	21
Intelligent Energy options	22
Calender	23

THE BIOENERGY international
www.bioenergyinternational.com

Hargshamn the biofuel port for the north Stockholm area

The truck-drivers Torbjörn Edin, Daniel Sjöholm och Anders Olsson having a short break while their trucks are filled with chips. The chips are transported to a terminal 20 km away.

One of the major Swedish harbour for handling bio-fuels is located 150 km north Stockholm.

Hargshamn has a long history. Between XVI and XVIII century Hargshamn was known as an important port for its intensive export of iron. In this area Vallones from Belgia moved and with them also the skills of the metaltrade.

The harbour is owned by the local community, Östhammar, Hargs Bruk and a local transport company.

There are only three persons permanently employed in Hargshamn harbour but when needed local entrepreneurs are used.

During the many hundred years of activity the business in Hargshamn harbour has fluctuated.

Nowadays the activity is high again and one of the main reason for that is of course the fast increasing demand of bio-fuels.

But not only bio-fuels are traded here. One product is on site produced stone a production based on the massive construction work that is going on in the harbour.

80 000 m^2 hard made area and two births are now in use.

The harbour is also connected to the railway net and it is easy to arrange effective transports with train. However transports by trucks dominates so far totally – We also have the ambition to establish a ro-ro traffic says Håkan Nilson managing director.

The location of the harbour is strategically god for the northern Stockholm - Mälardalen area with the cities of Stockholm, Uppsala and Västerås easily reachable.

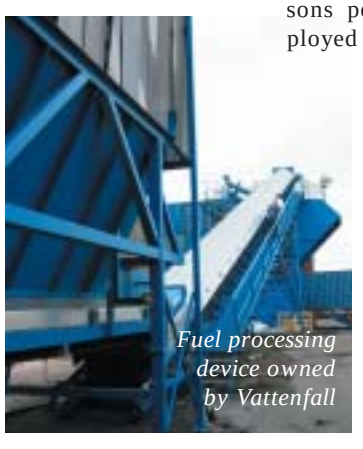
Only a few hours away by ship in the eastern direction is Åland, the most eastern point of Finland and further east is Helsingki and S:t Petersburg.

In the harbour area the activity is high. Plenty of the larger bio-fuel companies active in Sweden has mowed in.

Vattenfall has established a crusher and a sieve for handling with peat-briquets.

The wood-fuel company Naturbränsle with a yearly fuel turnover of more than 3 000 000 m^3 runs a train shuttle to the city of Västerås. Other active companies are Svensk Brikettenergi, Råsjö and Lantmännen.

Text and photo Lennart Ljungblom



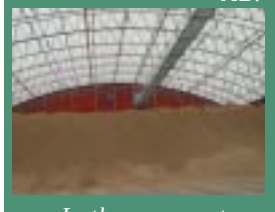
Fuel processing device owned by Vattenfall

Different biofuels are stored by the biofuels companies who are renting space in the 9 ha large harbour area

Håkan Nilsson, managing director, Hargshamn harbour

Göran Westerlund from Mixport is our guide when visiting the large harbour area.

An important function is the ship brooker. Here is Mats Björsbo from Björsbo Shipping AB.



In the area are two large pellets storage buildings located. This one is owned by Norrenergi AB the heating company. owned by the city of Solna.

Railwaty track directly to the births

UK Facts

Recent changes, to be implemented in April 2004, in the Renewables Obligation the statutory UK Governments instrument to create the framework for increased Energy production from Renewable sources to meet the Renewables targets. Companies wishing to co - fire in coal fired power stations will be required to source 25% of biomass used from Energy crops by 2009, 50% by 2010 and 75% by 2011. This is a major boost to the UK biomass industry providing achievable time scales for Energy Crop establishment.

Slovenia call for Biomass investment projects 2004

Starting from 2004 the regular call for Biomass investment projects are open in Slovenia.

There also exist possibilities for biomass wood district heating project value of 2,5 mln USD (subsidies - Government of Slovenia) and 2,5 mln USD (acquit - UNDP). The project is going on in period 2002 - 2005.

Prise index in Germany

The Bavarian association C.A.R.M.E.N. asks the business locally for prises for bioenergy and the result for December was for wood pellets 186,51 Euro per ton and for Bio-Oil, 0,664 Euro/liter

THE BIOENERGY international
www.bioenergyinternational.com

Vapo expands through buying

The largest peatfuelcompany in Finland Vapo, expands by buying other companies and plannes to be the leading player in Europe in pellets and briquetts.

Matti Hill CO of Vapo company, Jukka Hakkarainen, director of bussienssarea Energy in Vapo and Bernt Hedlund CO of Råsjö Torv AB in the pelletsplant of Mebio in Främlingshem, 250 km north of Stockholm, Sweden.

We started to diversifie our energy activities towards heat and electricity production in the end of 90s. First, in one of our own sawmills and later Vapo has bought several public owned heating and power centrals.

– Now we own five power stations and around 30 district heating plants, explains Matti Hilli, CO in the Vapo organisation.

Expansion outside Finland

– First we decided to focus on Sweden and in January 2000 we bought the company Råsjö Torv AB, just after they had bought the company Mebio.

Then our expansion continued and in 2002 we bought the largest peat producing company in the Balitc States, Tootsi Turvas in Estonia. Tootsi employes around 400 people, its turnover is around 11 milion Euro and 60 percent of the production is exported to Sweden. Afterwards we decided to buy another two smaller companies in Estonina. Our next step towards Sweden again was to buy Såbi, in January the 1st 2004.

Three legs

Three areas of Vapo's focus:

1) First and most important is local biofuels.

2) The second area is the production of heat and power.

3) The last and the newest area is waste handling and technology.

Moreover Vapo has sold also 12 public composting facilities in Finland.

– We also participate in a development project for gasification of biofuels to be used in a coal powered utility in Finland, says Matti Hilli.

Largest in the Baltic sea area

– Our goal by 2010 is to become the largest in the Baltic sea area in bioenergy, the largest in Europe in pellets and briquets and largest in the world in peat, explaines Juhani Hakkarainen, director for the business area energy.

However Vapo is already today among the largest actors. During 2002 Vapo's turnover amounted for 223 mln Euro in the bioenergy field. Peat was harvested from 42000 hektars and the production reached 26 millions cubicmeters. The delieveries of wood and peat fuel resulted in 22 TWh.

More than 1 TWh of heat was delievered and around 0,3 TWh of bioelectricity was produced in their own facilities.

In 2002 the production of pellets was 85 000 tonnes, and that result compared to 2001 gives an increase of 85 per cent. Half of the production was exported to Denmark, the Netherlands, Sweden and the UK.

Included investments in their own factories and buying the SÅBI the production at a yearly level till the end of 2004 will reach 400 000 tonnes of pellets and briquetts.

Text and photo: Anders Haaker

From saw dust to pellets Mebio in Främlingshem

Swedish, Mebio a company belonging to Råsjö Torv AB, a daughter of Vapo has under 2003 invested around 110 000 mln Euro in the pellet's plant in Främlingshem, 300 km north of Stockholm.

Mebio, from the beginning a peat production company, established the plant in 1999. The basic machinery was previously used in an old plant built already in the early 80s in the city Mora that was closed down only a few years later.

High maintance costs

The maintance costs for the old pellets presses had increased heavily and an exchange was therefor neccesary.

– Between July and October 2003 the old parts were exchanged for two new presses from Sprout Matador.

– At the same time, we replaced a drying cyclone, a silo and the cooling equipment, tells Marit Kindahl, plant manager.

The capacity has now increased from 35 000 to 55 - 65 000 tonnes per year without any increase of the staff.

– We use yearly 400 000 to 500 000 cubic meters raw material, says Roger Brodin, responsible for market, environment and peat production.

Around 85 percent of the material will be converted to pellets. The rest is used for energy production.

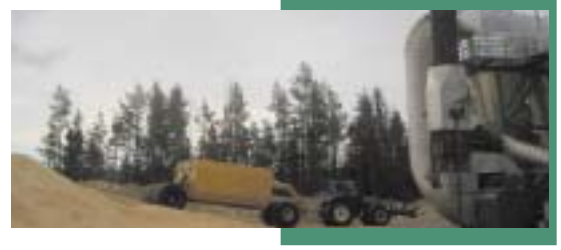
In Främlingshem steam is used to soften the lignin in the raw material before the presses. This increases the stability of the presses.

Marit Kindahl, Plant manager, behind her Roger Brodin, responcible for market, environment and productionsites in Mebio.

Additionally the steam makes the transport of the material through the presses smoother.

Anders Haaker, text and photo.

Production in the Mebio pelletsplant



Agrobränsle established in United Kingdom

Recent changes in the Renewables Obligation has highlighted the growing need for 'Energy Crops' to be established in the UK to provide biomass for co - firing in major coal fired power stations.

– The positive and challenging position of the UK Governments UK Renewable Energy policy has made Agrobränsle choose the UK as one of our key future markets, says Gustav Melin, CO of Agrobränsle.

– This, together with Sweden and Poland, is where the company has already established a biomass energy business.

– We believe that the Renewable Obligation Certificates trading mechanism together with Short Rotation Coppice - Willow planting subsidy (Energy Crops Scheme) will create a substantial increase in the number of hectares established in the UK over the next 5 - 10 years and our companies aim is to contribute significantly in the promotion and to assist in an efficient and successful increase of SRC-production in the UK.

Owned by farmers

Agrobränsle, the Swedish energy crop business is owned by the 55000 strong Swedish Farmers Co-operative - Lantmännen. The company have been developing elite varieties of willow (Salix) and have established over 16 000 hectares in Sweden over the past 15 years, providing biomass for a number of large heat and power plants.

Renewable Fuels managing director, Bob Smith, has long time experience from the forestry and sawmilling industry and has for the last five years worked in the UK biomass industry managing the 1 500 hectares of SRC Energy Crops established for the ARBRE power station in North Yorkshire in the late 90's.

– We have three main objectives, says Bob Smith, CO of Renewable Fuels ltd.

• Secure the co-firing market for the 1 500 ha of SRC Energy Crops that today are established in Yorkshire, providing a credible alternative to agricultural food production

• Provide for the establishment of substantial areas of Energy Crop in 2005 - 2010 to provide the required level of biomass to comply with the Renewable Obligation changes.

• Provide long-term solutions for sustainable biomass supply from a range of fuels from forestrys / Sawmilling, wood pellets and heat logs and imported food residues e.g. Palm Oil Shell and Olive Residues Renewable Fuels are also the UK sole agents for Svensk BrikettEnergi, Europe's largest wood pellet manufacturers. RFL are now in a position to offer bulk and trade quantities of certified sustainable fuel pellets and heat logs.

Gustav Melin
Agrobränsle

Harvest of willows in an energy plantation in Ekerö outside Stockholm. Photo: Lennart Ljungblom

BIOENERGY international
www.bioenergyinternational.com

Russian timber company Lemo

Expands into biofuel

The largest company in the North-West of Russia ZAO Concern Lemo started up in 1992 from round wood logging and exporting them to Scandinavia. Now it is entering a new level of development. Mr Andrey Ponamarev gives his presentation below.

First of all this new level of development is connected with deep wood processing and development of bioenergy.

In the nearest future, in the Volkhovsky region, the construction on the basis of OAO Syassky pulp and paper mill a large wood processing complex with annual capacity of about 200 thousand cubic meters of saw timber with drying, profiling, joining, is planned.

It is also planned to construct there the first in North-West of Russia plant for OSB production for house-building with the annual capacity of 320 thousand cubic meters.

This type of building material in comparison with traditional material is more universal, resistant and easy to process. Besides it is an environmentally friendly material made of sawmill waste. Its quality is better than all other existing plate materials and it is widely implemented in wood construction - used everywhere from bearing structures to wall cladding and interior finish.

Granules

Above mentioned production will create a lot of residues. Therefor, a complex for wood granules production on the high-technology European equipment of the leading producers is planned to be built.

Today it is rather high profitable business, even considering fuel pellets production from firewood, production and logging wastes and demand for this production in the countries of European Communities is high.

With first cost of 1 tonnes of granules (counting upon the purchase of firewood) of 45 - 55 USD, today's market price varies from 85 to 90 Euro on the conditions of Saint-Petersburg FOB and to 125 Euro Rotterdam SIF or 140-155 Euro of Italy SIF.

Long standing cooperation and work at a number of projects together with Rotterdam port and Forest Committee of European Economic Commission led to a number of important decisions in creation of an optimal logistic scheme of biofuel supplies to Europe.

Minimum 20 pellets plants

Also today Lemo possesses several provisional procurement contracts with Europe that the company cannot supply by construction of one high-capacity complex for 60 000 tonnes a year.

To achieve that - minimum 20 plants for pellet production, should be erected in the North-West of Russia.

Special subdivision

So, a special subdivision has been created in the Confederation of Timbermen of North-West where this concern participates.

This subdivision deals with bioenergy and considers the possibilities of all participants of forest industry complex for creation of such high-liquid production.

Important experience

It is very important that possessing 12 year's experience of working with export, foreign harvesting equipment, transport and terminals in Saint-Petersburg port, working experience on the transfer of different freight, stevedore company and watercraft, we can organize in this business the whole complex from giving technical task for a specific ground and selection of necessary equipment to product delivery to consumer.

A tendency to full waste utilization at all stages of technological process and to supply of in-house production with energy resources identified Lemo energetic strategy.

Pulp and paper

A special programme has been worked out for this purposes according to which a complex for recycling of wood processing plants and pulp and paper mills wastes.

It is not a secret that many pulp and paper mills have problems with waste recycling. Pulp and paper mills spend big sums of money on waste removal to landfills and on ecological fines, if not to mention pollution of the environment.

Kyoto protocol

But there is another approach to the problem. It lies not only in transformation of waste into heat and electricity, but also in getting co-financing into projects of emissions reduction according to the scheme "AAJ" or "JA" at the early implementation stage.

This can be reached by using the market mechanisms of Kyoto protocol even today when it still has not been ratified in Russia.

Lemo in the Dutch programme

Lemo Concern was the first representative of forest industry complex of Russian Federation that passed the tender selection from projects of Russia and was accepted into the programme of the Dutch government "ERUPT 2004" that is meant for financing projects of CO_2 emissions reduction in the countries of Eastern Europe.

Money invested in the project is not credit or grand, this funds are meant for purchase of reduced certified units of greenhouse gases emissions. It is very important that in the forest industry complex there are specialists who work on application of market mechanisms according to Kyoto protocol as long as ratification will be carried out by Russia.

We have gone a long way of agreement and approval of this project in different institutions of Russia and abroad.

Initiator of this project was Lemo Concern which was supported by the Confederation of Timbermen of North-West of Russian Federation and Plenipotentiary of the President of Russian Federation in the North-West Federal District.

Later this project has been considered and approved in five profile departments: Department of Economic Development, Department of Energy, Department of Industrial Science, Ministry of Foreign Affairs, Hydrometeorology Center of Russia.

Russia can participate

It should be reminded that today Russia can participate in the global market mechanisms of Kyoto protocol.

Netherlands energy operates for the most part on coal and exceeds its quota annually and thus has to pay large fines.

cont. p 8

Suppliers

cont. from p 7 Lemo ....

Lemo is going to sell to the Dutch 165 thousand tonnes of reference fuel annually, and thus the company will reduce emissions of harmful substances into the atmosphere.

It will be possible thanks to the construction of the energy unit operating on biofuel that will substitute the existing coal boiler-house in order to provide heat and electric power to the complex with deep wood processing with full cycle of recycling of industrial waste into environmentally friendly biofuel.

This new type of business is one of our projects.

Small boilers

Another topic that Lemo company has been working on is the possibility of transfer of small and medium-sized municipal boiler-houses in the Leningrad region from coal to wood chips.

At our own expense we have reconstructed one of them in the Priozersky region.

Port project

The next project is the creation of a complex for transfer of fuel pellets in the port on the rented grounds.

There is no such service in Russia now. We plan to start transfer on the equipment that our stevedore company possesses or rents not only for ourselves, but also for other granules producers.

It is very important to have the possibility of organizing regular ship transfers with quality that corresponds the global standards.

A whole group of specialists is working on the project realization.

Today it is a highly remunerative business in the world and pellet price is high as well as

cont. p 9

BIOENERGY international
www.bioenergyinternational.com

Pelleting of wood

Prerequisites for optimum operation are continuous product feeding into the press and a homogeneous, sufficiently pre-crushed product. The moisture should be kept very constant at a range of about 12 %. Due to the large volume reduction when compacting wood and wood shavings, particularly sawdust from about 100 to 600 kg/m^3, the press interior must be as large as possible. Further requirements made by the wood industry are a robust machine construction and a high availability of the plant.

Wood features

In comparison with other products wood does not have strong adhesive powers like starch containing feed, for example. The antifriction properties are not very distinct, either. As a result a high frictional force is quickly produced in the effective bores, which also is necessary for compacting this product with its low own binding forces.

Pelleting process

It is noteworthy that there are differences concerning the processing of different kinds of wood which depend to a large extent on the resin content. In case of hard wood, such as beech or oak, pelleting presses for shaping wood pellets requires higher pressure forces than soft wood and conifers. The pressure forces lead to the ”specific energy consumption”, which is between 30 and 50 kWh/t in case of wood processing.

Pretreatment

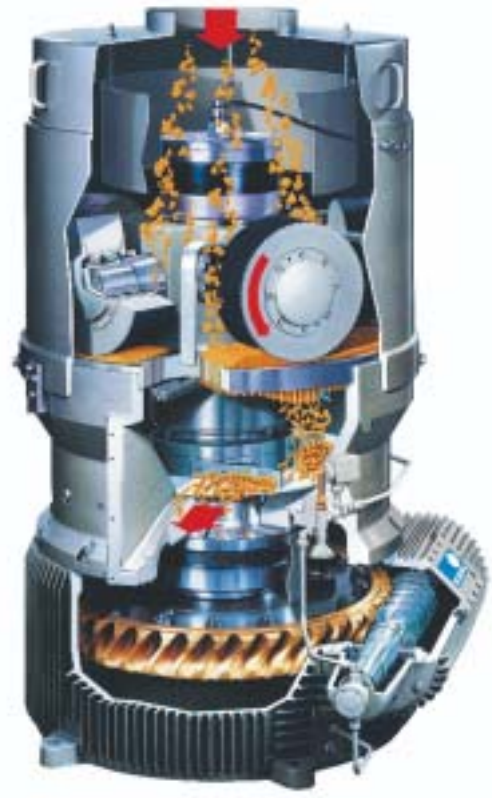
Due to the high frictional resistance and the low adhesive powers of some kinds of wood preconditioning, i.e. pretreatment of the product before the actual pelleting process, is very important.

Moisture, temperature and crushing

The product moisture, temperature, and crushing degree play an important part. In order to increase the moisture content of the product, water should be added partly in form of steam and the moistened wood should be given sufficient retention time for letting the moisture penetrate into the product. For this reason an ideal plant is provided with a crushing system, e.g. a suitable hammer mill, a continuous mixer for the addition of steam and water, and a long-term conditioner for the retention time before pelleting.

Amandus Kahl

Particularly for the



pelletization of wood the company Amandus Kahl has developed pelleting presses with reinforced bearings and further construction details which meet the requirements made by the wood industry.

Fritz Kahl

cont. from p 8 Lemo ...

demand for them.

Why pellets

To return to the question of pellets, why just pellets?

Today whole of Europe has started to substitute coal by the cheaper and more environmentally friendly biofuel. From all of the existing types of biofuel (compressed briquettes, wood chips and so on) pellets turned out to be very suitable and of cource also ecologically friendly.

Everything is interconnected from timber logging to its final result, waste transformation to biofuel. In a word it can be defined as economical ecology.

Manager of Bioenergy department Svetlana Alexandrova tells us about pellets:

– Biofuel is environmentally friendly product with ash content of 0.5 - 1%. It is produced from waste wood and contains no impurity elements.

This fuel usage has a great economic influence.

First of all it represents an alternative to traditional fuel - liquid, solid and gas fuel, that are not environmentally friendly, cheap or economical.

To compare: combustion of tonnes of wood granules is equivalent to combustion of 3200 kg of wood, about 957 m^3 of gas, > 1000 liters of diesel fuel.

Fire-wood is estimated today as 1/3 of electric power payment. Energy heating capacity that escapes during pellet combustion is > 3120 kW / m^3; it is approximately 4 times more than during wood chips combustion.

Calorific value of condensed gas - 25 000 kilocalorie / m^3, liquid

cont. p 10

First Wood Pellet Conference staged at Woodlands Enterprise Centre

The future of wood pellets as a heating fuel was under the spotlight at the UK’s first wood pellet and heating conference held in the beautiful setting of the Woodland Enterprise Centre at Flimwell, East Sussex on 23 rd January. Titled ’Innovations in Wood Heating’, the Conference was arranged by the National Energy Foundation (NEF) in conjunction with the South East England Development Agency (SEEDA).

Conference

The Pellet Conference attracted a wide variety of pellet interests, from farmers looking for a

future cash crop, through importers and retailers of wood pellet boilers and stoves to companies intending to start wood pellet production. The Conference was divided into four sessions which covered the industry organisations, grants for customers and pellet production, the pellet market here and in Europe with the final session amalgamating such diverse subjects as planning implications, heat supply contracts and the advantages of pellet/solar energy installations. Each session included a 15 - 20 minute open session where comments from the floor could be debated.

British Pellet Club

Chairman of the wood pellet trade association, the British Pellet Club (BPC), Gavin Gulliver-Goodall, while conceding that the current UK pellet industry was tiny, told the delegates that co-operation would enable the fledgling association to apply pressure on government to introduce a framework where biomass and the appliances to burn it would thrive.

List of tasks

High on the BPC’s list of tasks was the need for to recognise the different requirements of pellet flues within Building Regulations Document J and work on this is due to start shortly. The more that joined the BPC, the more work that could be done to address the other issues facing the pellet industry today, such as fuel standards and quality assurance.

Sandra Hayes , Senior Project Manager, National Energy Fundation

Suppliers

cont from p 9 Lemo ...

(diesel) fuel - 9 300 kilocalorie / kg, residual fuel - 9 700 kilocalorie / kg, wood, wood chips - W25% = 2 800 kilocalorie / kg, W40% = 2 400 kilocalorie / kg, W60% = 1 500 kilocalorie / kg, pellets - 4 200 kilocalorie / kg.

Raw material for this type of fuel includes roundwood (substandard wood), asp, biowaste from wood processing (slab, wood chips, shavings, sawdust) from the regions of closely located pulp and paper mills, wood processing and furniture production.

Pellets constitute cylindrical granules of 6-8 mm in diameter and 20-25 mm of length (in average) that are produced by means of compression of sawmill production wastes with 8-12% moisture.

This form is meant for more convenient use of fuel for combustion in boilers with maximum efficiency.

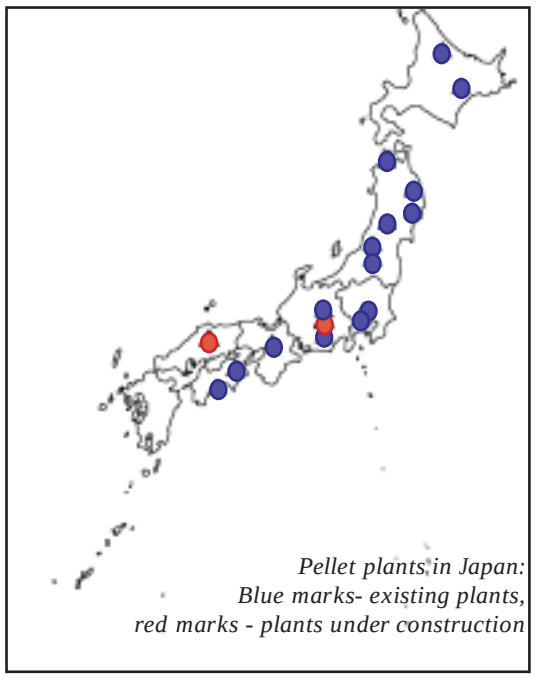
For example briquettes should be grinded before being put into the boiler while pellets represent a product ready for use. Pellets are used mostly in industrial production, boiler-houses, electric power stations and heating of administrative and private buildings.

For example one can use a boiler operating on pellets on the residential area heating. It will be more secure and cheap than using heating that exists now in most towns of Leningrad region, boiler-houses that operate on residual fuel with worn system of heat supply to consumer.

This is a real possibility for timbermen to earn money converting their production into fully wasteless and profitable.

Andrey Ponamarev
Concern Lemo
grechanova@lemo.ru

BIOENERGY international
www.bioenergyinternational.com



Pellet plants in Japan:
Blue marks- existing plants,
red marks - plants under construction

Boiler Niko engineering

Kenichiro Kojima

Japan, is a country with a strong need for development of renewable energy resources. About half of Japan is covered with forests. Therefore forestry energy has a huge potential there. Kenichiro Kojima informes us about the situation and the new Pellets Club Japan, that is about to be restarted.

Pellet club Japan

Japan pellet market - first production started in 1982

In Japan, pellet production already started 1982, by reason of oil crisis. Since then, about 21 pellet plants had been constructed in 2 years, although 3 were not yet started in 2001. This is because downspin of oil, user-unfriendliness of combustion appliances, etc.

However, current movements including global warming and sustainable use of woody resources increase interest in wood pellets. Actually, 3 pellet plants started operation in year 2002, 6 in 2003, 2 in 2004 and other 3 are planed in 2004.

Regarding production and marketing of combustion appliances, currently 10 domestic and 7 importing companies deal with pellet stove, as importing from Europe and North America existed in 2001. In addition, 2 domestic and 2 importing companies deal with pellet burner, 2 domestic and 3 importing companies with pellet boiler.

While, pellet businesses face many problems. First of all, high manufacturing and transportation costs of pellet fuel could.

This comes mainly from high procurement cost of raw materials and bad logistics. Furthermore, lack of standardization of pellet fuel and systematic examination on combustion appliances force each company to sell their own products by their own way.

Therefore, pellet businesses cannot troubleshoot as an industrial group when any problems on products occur.

In order to solve these problems, the Preparatory Meeting for Pellet Club Japan would like to renew organization as ”Pellet Club Japan” in coming April.

Our symposium in March will be good opportunity to progressively discharge the preparatory Meeting.

Pellet Club Japan will work on standardization of pellet fuel and combustion appliances, networking of domestic groups, and empowerment and protection of consumers.

Kenichiro Kojima

Osaka Forest Association

Stove(Sunpot)

Burner(Olympia)

Burner(Olympia)

Address: Hito-Machi koryukan KYOTO, 2F 83-1, Umeminato-cho, Kaminokuchi-agaru, Nishikiya-machi-dori, Shi-mogyo-ku, Kyoto, 600-8127 JAPAN
TEL/FAX: +81-75-361-2040
E-mail: ken.kojima@pelletclub.jp
URL: http://www.pelletclub.jp

Ecofire Mini Lux

The Danish company Titan Heating produces a series of pellets stoves with electronic and automatically ignition. The power output varies between 2 - 8,5 kW for the example above the Ecofire Mini Lux.

The stove can also for example be managed through the telephone. The ash box has to be emptied only once every three weeks.

www.titanheating.dk

Thermorossi

This Italian company is one of the largest producers of modern pellets stoves. The model above has the name Ecotherm. They have models with exclusive design and models in small sizes. Their products are when needed very easy to clean.

www.thermorossi.com

Not informed about the pellets solution?

The Pellet

”Who will take care o stove when I am at w

Millions of people around the world suffers from high energy prices, inconvenient old However there is a solution - the pellets stove. For You that has not met the pelletsstove to believe that it can be fully automatic and even possible to manage from a distance w or even by the telephone.

Please

Who does the firing when you are not home, or when you sleep? A wood stove will normally only heat as long as you keep the fire going. If it is surrounded by bricks or stones it can keep some heat for a while but that´s all. And if you cuts down the air supply to keep the fire burning for a longer time then the result is bad burning and unhealthy exhaust gases. Your neighbors will come and search for you!

And further more, in a city area it is often difficult to get wood to affordable prices.

Simple and beautiful

The small-houseowner who instead chooses a pellets stove gets a fireplace that can take care of the total heating of the house. It will work automatically and is capable to spread the heat to most parts of the house, depending on the house design. The fine thing is that it can work with efficiency even when the demand is very low. It can actually burn such a small energy amout as in a wood log an hour, if needed. Try to do that in an ordinary wood stove!.

On the other hand if You very fast needs to warm the house You can instead give an effect of up to 10 kW.

The only thing you normally have to do with the stove is to press the on button and then the thermostat will take care of the rest.

Nice design creates fine moods

The pellets stove becomes immediately the normal gathering point in the house. You can chose a stove of the design that you like - modern or traditional, small or large.

The best thing is that you save money at the same time you get comfy and you do not irritate your neighbors with bad smoke.

It can not be more simple. Of course You have to take away the ashes around once a week and you do also have to clean the stove a little more maybe once a month, but it will not be of so much trouble for you and during the time you do that you can think of the money you are saving.

Stove from Titanhea

The fuel

Many people think that pellets is hard to get - but it is not. At least it is not in those countries and regions that has developed a pellets market. In those cases the only thing you have to do, is to take the phone and call a supplier of your choose.

The delivery man will bring you pellets packed in small bags with a weight of around 16 kg each. Normally you have to order a minimum quantity of between 50 - 100 bags to get a cheep transport.

At home You will use maybe a bag a day the winter and m seldom in the summ

Lot of prematur views

People do often not lieve that it can be convenient and eff tive with a pelletssto They think this is a turn to the old smo ages. What they do understand is that do have a modern te nology inside, a f with a quality guar

BIOENERGY international
www.bioenergyinternational.com

ts stove

f the ork?"

photo from GDE-net

l wood stoves.
e it is a little hard
with your remote

check www.bioenergyinternational.com for a long and nice list of links to pelletsstove producers.

tee and much more nice technical stuff.

Safety?

Another common question is - **What about the electricity supply?** If there will be a shortage of electricity then will the stove not run. That is true!

The pellets stove needs electricity, but not much! You can solve the security problem with your car battery and a transformer until the situation is under control again. The pellets stove seldom needs more electricity than an ordinary light bulb.

Is it complicated to install a stove?

Of course You do need to heave a chimney, however the stove does not demand it. For it's function is enough, to heave an exhaust gas pipe, but there are othe reassons, for example practical and helth regulations.

But a dedicated pellets chimney is simpler and cheaper than a conventional wood stove chimney. The total time for installation of stove and a new chimney if needed is 1 - 2 days of work for the installateur. If You already heave the chimney You can heave your new heating facility running in a few hours.

What to think of?

There are different aspects to consider when deciding of a pellets stove.

The price varies a lot, from around 2000 Euro to around 6 000 Euro depending on model and country.

A low cost stove can also be a god one, but it is important to get a guarantee of the emissions as well as for the prestanda of the stove.

If the stove is ment to be placed in the living room you should also consider the sound level You can get to regret to save money in exchange for a noisy environment at home.

And then of course there is another problem, your friends and neighbors comes to visit you more often - the do also want to enjoy the heat of your stove.

The Wodtke Pellet Stove CW 21

Wodtke are famous for their design. This new modell combines a great aesthetic sense with high functionality.

With its new technology, the pellet stove can be used in the home either as a local source of heat or can function, equipped with a heat exchanger for water, as central heating.

It can heat a whole house and supports the production of warm water for domestic use in combination with solar collectors.

The quantity of fuel and the burning process are automatically coordinated by means of a microprocessor. Thus, when the stove is in continuous operation, the proportion of CO in the waste gas (< 0.12 vol.%) is extremely low and its efficiency can reach up to 90%.

The performance can be adjusted anywhere between 2.2 and 10 kW. Whenever required, the hopper can be refilled with pellets without interfering with the heating process. An automatic cleaning function keeps the firepot clean for a long time.

EcoTec Tyr Wood and pellets

This is not so com mon a stove that can take care of both wood and pellets with good results. For the household that has wood available but do not want to be around all the time it is an extremly god solotion. The basic burning device for pellets is the Sahlins Ecotec well proven pelletsburner that is used in boilers.

It is connected to a wood stove. Another nice facility is that it is possible to connect a larger pellets storagebin placed outsoide.

more info: www.ecotec.net

Pellets facts

Heatingvalue	apr. 4,8 kWh/kg
Volume weight	apr. 650 kg/m³
1 m³ oil	apr. 2,1 ton pellets
	apr. 3,2 m³ pellets
Diameter:	6 - 12 mm
Length:	max. 4x diametern
Energy:	apr. 1m³ = 3 120 kW
Moistercont:	apr. 8%

What is pellets?

Normally pellets for small houses are produced from residues from wood industries sawmills, furniture factories etc. In the pelletsplant the finemilled rawmaterial is dryed and under high pressure feeded through the small holes in the pelletspress. During that process, if the cooling that takes place after is done properly the pellets will be formed. A single pelletspress can produce between a few hundred kg per hour to more than 2 000 kg / hour. In a pelletsplant there can be a lot of presses standing besides each other in a road.

Austrian Rika has a long experience of production of pellets stoves, the farmost longest in Europe. Nowdays they focus on users friendliness solutions. For example all their stoves can now be controlled by a mobile phone or a network. They claim that there is a possibility to save up towards 30 percent of the heating costs

www.rika.at

Twist from Austrian Calimax is one of the most quiet pellets-stoves because it has no fan for the hot air to the room. 80 percent of the heat is instead used in a water convection system. The stove is fully automatic and can be bought with different colours.

www.calimax.com

Suppliers & Trading

Introduction to two-stage gasification

The two-stage gasification process has been developed by the Biomass Gasification Group at the Technical University of Denmark, DTU, during the last 15 years. The main advantages of the process is that very small amounts of tar are present in the produced gas, and that very high efficiencies are achieved. In 2002, a small-scale demonstration plant called "Viking" was established for fully automatic operation. During 2003, the gasifier was tested, and it had more than 2000 hours of operation.

Viking Gasifier

Based on VIKING gasifier success, the Danish boiler manufacturer "Weiss A/S" decided to focus on futher development of the process and its upscale to 1 MWe and above.

A pilot of 200kWe will be established and run from spring 2004, with financial aid from a Danish grant, in co-operation with DTU and COWI.

The pilot designe will have:an electric efficiency of 35% and total efficiency of 100%. This is possible due to the high cold-gas efficiency of the two-stage gasification process of more than 95%.

Jens Dall Bentzen
Cowi Consulting

BIOENERGY international
www.bioenergyinternational.com

Iisalmi a successful ”traditional” project

High performance cogeneration

By utilisation of biofuels Iisalmi district heating power plant in Finland has achieved an electrical share as high as 49 percent and it is environmentally friendly

Iisalmi Power Plant in September 2003, photo: SalmiVoima

The project developer, owner and operator of the new 45 MWth BFB-based cogeneration plant in Iisalmi is Termia Oy, part of the Atro Group (formerly Savon Voima Oy).

Fired on peat and wood waste and handed over to the customer in November 2002, the plant's electrical output is sold to the parent company and heat locally to customers in Iisalmi.

Prior to the commissioning of the new plant, some 22% of the heat was generated by fuel oil, the other part from biofuels. In addition to Termia's own production, heat was bought from a nearby sawmill.

The district heating system based on 2001 data had a capacity of 44.2 MW and a yearly supply of 130 GWh. The total length of piping was 62.5 km and the annual fuel consumption 170 GWh.

Heat was mainly supplied from the Parkatti heating plant, which incorporates a 15 MW fluidised bed hot water boiler, fired on peat and sawdust, and two 12 MW hot water boilers, fired on heavy fuel oil.

Feasibility confirmed

A feasibility study for a new cogeneration power plant was initiated in 1997, and a decision to build was made at the end of 1998.

Construction started in 1999, and the plant was brought into commercial operation in October 2002.

Consultant

Termia called on the extensive experience of Electrowatt-Ekono Oy for an optimized, economic solution.

Optimising the district heating turbine process - raising the power to heat ratio as high as possible without increasing investment costs - is a demanding challenge in the size of plant envisaged.

Two alternatives

Tenders for a district heating turbine and a steam boiler were requested with two different power-to-heat-ratio alternatives.

The lower alternative was based on values that were normally used in Finland in the 90s.

The higher power to heat ratio was the one selected, however.

As a result, an additional 16% of electric output has been obtained, for only a 4% increase in investment costs.

Priorities

When the construction decision was made, one of the main objectives was to utilise as high a level of indigenous fuels (peat and biomass) as possible, at a high level of efficiency.

An environmental impact analysis was carried out.

One main benefit of the type of plant ultimately selected was that the bulk of the fuel can be supplied from the surrounding area.

Grant provided

The government provided a EUR 2.7 million grant for the project, equivalent to 13% of the total EUR 21 million investment budget.

Before the plant was built, Termia used approximately 95 GWh of indigenous fuels annually. Today, this figure is 220 GWh.

The main fuel used is milled peat. Up to 30% of green chips from logging residues can be used. Recycled waste fuel can cover up to 3% of the total fuel requirement.

Modern technical design

Electrowatt-Ekono Oy was responsible for the optimisation of the plant process and the complete design of the plant, excluding architectural design.

The district heat output of the plant is 30 MW, with DH water temperatures of 55/85°C. Backpressure electric output totals 14.7 MW at the generator terminals.

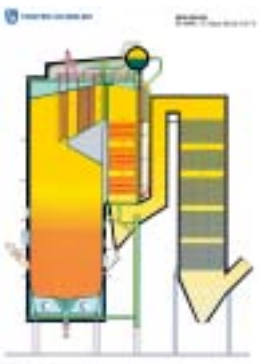
As the new plant has been built adjacent to existing heating facilities, the latter have been connected to the new unit, and their automation systems upgraded.

The steam boiler

The 45 MWth steam boiler used is a multifuel-fired boiler, able to fire all indigenous fuels and supplied by Foster Wheeler Energia.

The bubbling fluidised bed unit can be fired on up to 30% green chips. The remainder is accounted for by milled peat. The steam values after the boiler are 90 bar/ 515°C.

The principal process flow sheet of the new Iisalmi power plant



Innovative steam turbine solution

The district heating steam turbine is a new single casing, two-stage model, with a double flow district heating tail.

This is the first unit of its type in Finland to be operated in this configuration, and has been supplied by Blohm & Voss Industrietechnic GmbH.

Steam flow is distributed to separate turbine flow sections in such a way that the steam is evenly distributed between both heat exchangers at higher DH water exhaust temperatures and at partial loads.

This technical advance enables higher power generation output during the winter compared to a conventional backpressure turbine; and the additional cogenerated power, which is achieved by 2-stage district heating water preheating, is not fully lost.

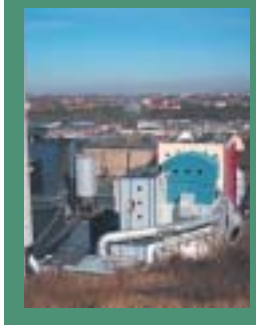
The power/heat ratio of plants with a similar size is approximately 0.4; in Iisalmi, this figure is 0.49. The cost/benefit ratio is quite advantageous.

Anssi Kalmari, Vice Pres. of the Project Services Department at Electrowatt-Ekono Oy, Finland

More from Waste

Efficient waste recycling and handling, designed to remove all reusable fractions and inert materials, is key to producing a refuse-derived fuel (RDF) stream that can be burned efficiently and safely to generate electricity and/or heat.

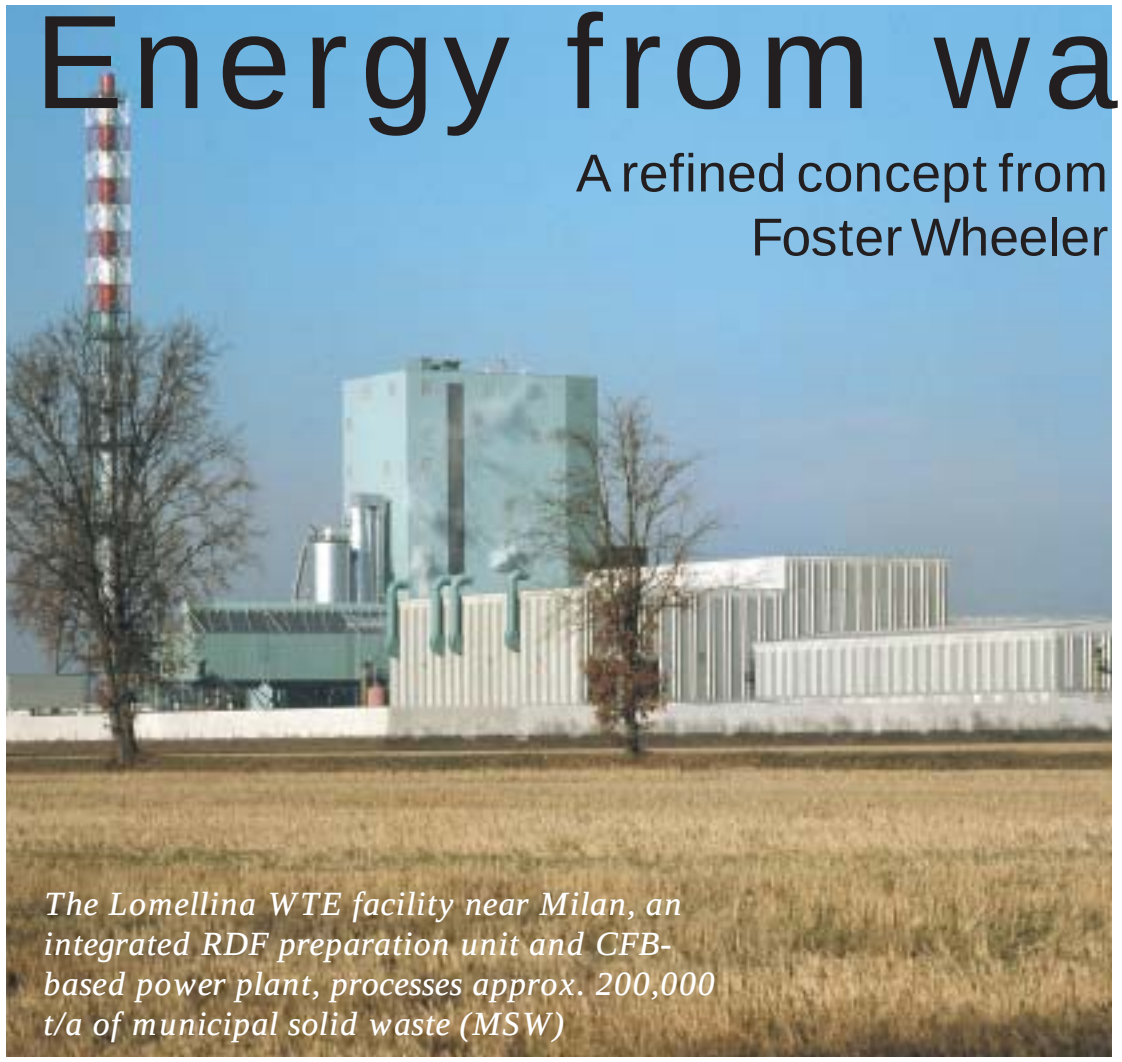
This approach, followed by Foster Wheeler in its fluidized bed-based boilers and gasifiers for waste-to-energy power plants, differs completely from conventional incineration technology



The Högdalen plant in Stockholm features a 91 MWth CFB unit burning sorted commercial waste.

Energy from waste

A refined concept from Foster Wheeler



The Lomellina WTE facility near Milan, an integrated RDF preparation unit and CFB-based power plant, processes approx. 200,000 t/a of municipal solid waste (MSW)

Foster Wheeler has arrived at this approach by two avenues:

It´s experience supplying traditional grate-fired waste-to-energy (WTE) facilities, such as the plant in Lisbon completed in 1999 that was the largest in Europe at the time.

On the other hand there is Foster Wheeler world-leading expertise in fluidized bed combustion.

Fluidized bed combustion has always offered high levels of combustion and emissions performance, and Foster Wheeler's WTE focus today is on power plants using circulating fluidized bed (CFB) boilers and CFB-based gasifiers fired on RDF.

A refined concept

Foster Wheeler's latest CFB boiler concept for firing RDF draws on experience built up with two plants delivered to customers in Sweden and Italy: Högdalen and Lomellina.

Högdalen, Sweden

The Högdalen plant in Stockholm, a 91 MWth CFB boiler burning sorted commercial waste, has been in operation since 2000.

Lomellina, Italy

The Lomellina WTE facility near Milan, is an integrated RDF preparation unit and CFB-based power plant, has been in operation since October 2000, processing some 200,000 t/a of municipal solid waste (MSW).

Foster Wheeler's RDF-optimized CFB concept prioritizes high availability and good maintainability.

Corrosion and fouling are kept to a minimum through the use of "INTREX¨ superheaters.

Foster Wheeler's SmartBoiler™ system - an expanding set of intelligent analysis and optimization tools for improving plant operation.

High efficiency

A WTE power plant based on the new RDF-optimized CFB concept offers a net cycle efficiency of around 28%, which is substantially higher than conventional incineration plants, and also higher than earlier CFB designs.

This results in lower emissions per MW and much higher output per tonne of waste input.

Gasify RDF

Foster Wheeler also offers CFB gasification technology for use in co-firing product gas from an RDF-fired gasifier in an existing fossil fuel power plant.

Lahti

A gasifier built in Lahti, Finland alongside a pulverized coal-fired boiler generating 130 MW of electricity and 230 MW of district heat was initially fired on biofuels, such as bark, wood chips, sawdust, and uncontaminated wood waste.

Other fuels have also been tested, including solid recovered fuel (SRF), railway sleepers, and shredded tires. The proportion of SRF has steadily increased to as high as 40%. Whatever the fuel mix, the gasifier has operated well, with availabilities of 96% and higher.

Ruien, Belgium

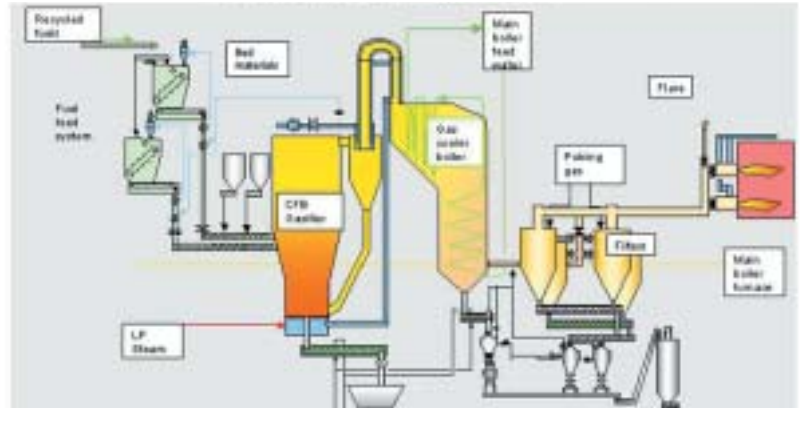
Foster Wheeler's latest gasifier reference, firing bark and wood chips, began commercial operation in 2003 at a large coal-fired power plant in Ruien, Belgium.

Clean product gas

A new combined gasification and gas clean-up technology is also now offered for RDF.

This offers the highest level of electrical output per tonne of waste of any existing WTE technology, with the potential of net cycle efficiencies of up to 40%.

Peter Herring, Foster Wheeler



Gasification of recycled fuels
Foster Wheeler's latest gasifier concept for recycled fuels.

www.bioenergyinternational.com

Gasification experience for combined heat and power

Biomass gasification from Babcock & Wilcox Volund

With the objective to optimise the power efficiency and environmental impact of the technologies, Babcock & Wilcox Völund, initiated in the late eighties a development process aimed at including gasification technology into their product portfolio.

The main rationale was to change from conversion technologies based on mass combustion into the more versatile product gases available from gasifiers.

At the same time it was envisaged that these gases might be used with highly efficient gas-engines and gas-turbines.

Very early the development work was focused at technologies for the range 5 - 20 MW fuel input.

Early work

Between 1988 and 1992 the experimental work was centred on a 1 MWth updraft straw gasifier located at the Kyndby Power Plant (Copenhagen area) and based on a design by Dr. Horst Gatzke (Keramische Industrie Bedarfs, Berlin).

The work was sponsored in part by ELKRAFT Power Utilities and the Danish Energy Agency.

After several attempts to gasify straw for prolonged periods, Volund R&D Centre concentrated on the gasification of wood-chips - another abundant biomass fuel in Denmark.

These experiments, which were quite successful led to continuation of the development program at Harboore (West coast, Jutland) from early 1994.

1994 -1999

From 1994 to 1996 several problems - mostly related to maintaining stable gasifier operation and keep the product gas system free of deposited tars and particles - were solved.

After this period, the gasifier was capable of providing district heating (with auxiliary oil firing for mid-winter peak load district heating demand) and the work was now concentrated on cleaning the product gas to a level applicable for gas-engine firing.

Initially, the technology pursued to reduce the product gas tar content from about 80 (g/Nm^3) to levels compatible with the requirements for gas-engines was based on tar cracking using metallic catalysts. However during 1997 this was abandoned for use in prolonged operation and also because the cleaning performance proved inadequate.

A system of gas-scrubbers and a wet Electrostatic Precipitator was tested for a prolonged period and by exchanging the gas-scrubbers with district heating cooled heat-exchangers, adequate performance was finally achieved.

2000 - 2002

In the spring of 2000 two Jenbacher gas-engines (each originally 1000 kWe natural gas engines modified and down-rated to each 648 kWE - one of these later increased to 768 kWE) were installed at the plant and were soon in satisfactory operation.

A system for cleaning the tar contaminated water from the gas cleaning system - based on ultra-filtration and reverse osmosis failed to perform shortly after start up and a new technology had to be developed.

In the spring of 2002 - after prolonged pilot scale tests (50 - 60 kg/h of tar-water) - a full scale system (1200 kg/h) was set in operation and is now operated continuously with a verified overall plant power efficiency of about 28%.

The Harboore reactor

Based on a moisture content of 42% the Harboore reactor will handle about 1800 kg/h of wood-chips fuel corresponding to a loading of 5000 kWTH.

The load range for stable operation in engine operation mode is 500 - 5000 kWth and modulation between these limits takes place within a few minutes.

The fuel moisture content may vary between 35% and 55%. However, the Harboore gasifier will handle fuel moisture content down to below 10% and capacities in excess of 6000 kWTH in pure district heating operation mode.

The wet gas cleaning system used at the Harboore CHP plant leaves about 50 kg/h of heavy tars and about 100 kg/h of light tars after part of these residues are used for operating the TARWATC process and for district heating peak load firing.

These low-grade fuels may be used for district heating, but a more attractive solution would be to return the tars to the gasification reactor to release part of the carbon burned to maintain reactor heat supply for gasification.

An alternative solution would be to gasify the tars and join the gas produced with the main gasifier product gas flow.

A re-introduction of the tars into the gasifier will improve the plant power efficiency and will especially be important at markets, where use of district heating is of secondary importance.

2002

Early 2002, Babcock & Wilcox Volund R&D Centre successfully gasified these residuals on a (8 kg/h) laboratory scale entrained flow gasifier and are now in the process of preparing a full-scale project to be implemented at the Harboore gasifier within a few months.

Based on the experiences with the pilot scale gasifier it is anticipated, that the overall power efficiency may be improved to about 31%.

Dr. Bjorn Teislev, Manager Research and Development

Volund - which is part of the US Company Babcock & Wilcox - has since the early eighties concentrated considerable efforts in conversion of biomass and municipal solid waste into Heat and Power.

Babcock & Wilcox Volund employs about 400 and is a major engineering and manufacturing Company within this sector.

Evaluation of German Renewable Energy Source Act II

On December the 17th 2003 the German Government presented with a revised draft of the urgently required Renewable Energy Source Act that just apparently improved framework for the bioenergy. Though in order to the first draft the compensation amounts have slightly been raised with the new compensation level of 150 kW (11,5 Cent/kW) and the expansion of the two bonuses (fuel- and technology) to the 5 MW level for biomass plants respectively 500 kW for biogas plants, the cut of the compensation period from 20 to 15 years and the raise of the degression rate from one to two percent for new plants cause effectively a clear worsening for the bioenergy.

"It is the declared political aim of the German government to foster the bioenergy and to expand its market share according to its potentials, but this draft is diametrically opposed to this aim and leads to an unacceptable worsening even to the present status quo, which improvement was admitted by the government as essential!" stressed Helmut Lamp, Member of Parliament and CEO of the German Bioenergy Association (BBE). But not only the

Introduction of the Danish company Maskinfabrikken REKA A/S

Maskinfabrikken REKA A/S was established for about 25 years ago by our director Christian Larsen. Since then we have been one of the leading producers of biomass burning equipment.

Reka produces around 500 bioboilers each year, which are sold all over the world. Primarily to Balticum, Germany and Scandinavia.

Our experience is that we have had very few complaints, although those many thousands plants are running.

Most of our boiler types are tested either by DTI (Danish Technological Institute) or TÜV (Technische Überwachung Verein).

We are also proud to mention that in Estonia, our plant in Avinurme (which is a 1,3 MW plant burning wood chips with maximum 50 percent water content has been nominated as the best heating central there).

Our 5 boiler types HKRST 20/30/60 and TPK 12/22 has been tested and accepted by TÜV with excellent results.

REKA A/S has also delivered waste burning plants to mostly all of the about 50 villages in Greenland.

To the towns Sisimiut and Qaqortoq in Greenland there are delivered waste heat burning plants producing district heat for these 2 towns.

All our boilers, which has automatic feeding, have automatic O_2-control for obtaining an optimal combustion.

All our plants, when started up by our service-people, are adjusted and tested, and NO_x, CO and dust are minimiced.

Johannes Vestebo
Maskinfabrikken
REKA A/S

Fire and explosion protection in practice

During 2003 the municipal heat and power company Norrenergi just north of central Stockholm converted two 50 MW oil fired boilers to wood fuel. (also see Bioenergy International no 6) The wood fuel will be transported and stored in the shape of briquettes and pellets. The existing plant has been equipped with a new fuel handling system for storage, milling and transportation of fuel to the new burners attached to the existing boilers.

The fire protection system has been engineered and supplied by Firefly. After a risk analysis a number of locations in the fuel handling system was chosen for detection and extinguishing of hazardous ignition sparks, hot particles with a temperature and energy above the limits. The best way to detect the hot particles is where the fuel is falling in a tube.

- This is a normal protection project when the procurer is aware of the dangers and understand the benefits of a protection system, says Michael Vilnier, project manager at Firefly.

Text Anders haaker

AEBIOM

www.bioenergyinternational.com

During the AEBIOM Steering committee on 16th February in Brussel, Kent Nyström representing SVEBIO, presented the Manifesto of AEBIOM for further actions of implementation the bioenergy in the European Union and its Member States. This manifesto points out what kind of actions have to be taken by the European Union and its Member States to enable the fulfillment of the agreements made in the Kyoto protocol and to achieve the aims in the EU policy of bioenergy.

More info and text of the Manifesto http://www.ecop.ucl.ac.be/aebiom/

Aebiom board and members in a meeting in Brusseles February 2004. One of the main isues was the new manifesto.

shortened compensation period and the raised degression rate is criticised by BBE. The exclusion of old plants from the new compensation amounts can turn round fuels e.g. of the cofermentation process from old to new plants and therefore threaten old plants in their economic existence. Furthermore even with an expansion of the bonuses to the level of 5 MW (biomass) respectively 500 kW (biogas) the amount of the bonuses is still too low to open up the enormous potentials of renewable primary products as desired.

Apart from the content of the draft the extreme long evaluation period has already lead to a irresponsible slumb in the bioenergy market. Because of missing investment guarantees and unclear compensation amounts planed projects are still not be realised which causes serious problems for manufacturer of bioenergy technology and engineering companies. "If the government doesn't adopt the Renewable Energy Source Act soon, all achievements of the past will be beaten-up." Helmut Lamp emphasises the current situation.

Text: Thomas Siegmund project Manager from German BioEnergy Association, Bundesverband BioEnergie e.V. (BBE)

IV International Slovak Biomass Forum

The winner of the best thesis, Ladislav Kosik

In the press conference there were a lot of questions regarding Slovakian legislation and the possibilities for the Slovakian to participate in the EU

The audience was active and made a lot of remarks and put many questions to the speakers.

Rudolph Plasil, project manager Reiffeisen Bank Austria presented the leasing models for renewables.

The conference took place on Monday, February 9th, and Tuesday, February 10th, 2004, in Hotel Danube in Bratislava, Slovakia.

More than 100 participants from around 15 Europeans countries participated.

There where representatives from domestic and international biomass technology providers, wood processing companies, biomass utilization experts, energy utilities, project developers, consulting firms, investment organizations, venture capitalists, relevant Slovak ministries, and end consumers such as local governments and housing cooperatives attended the conference.

Main goal

The main goal of the conference was to foster further cooperation between market actors and the faster implementation of the latest and most effective technologies.

The conference was also very important as a lobbying tool. The industry could inform government representatives and decision makers about the growing biomass sector as well as gave the reasons and possible methods of support that could help the market expand at a faster rate.

An effort made by these participants could also lead to significant positive changes in local, regional and national governmental policy concerning such issues as energy pricing, tax policy and renewable energy support.

International Slovak Biomass Awards

Research and implementation activities in the Slovak biomass sector are still at a level far away from their potential.

The Biomass Forum organizers have therefor proposed a competition to provide an incentive to encourage such activities and the much-needed recognition for activities already taking place.

Prizes will be awarded to the winners of the competition.

This competetion designed to recognize the innovative efforts of students, researchers and project implementers in the field of biomass utilization.

The awards was given in three categories: Best Thesis, Best Project Idea, Best Project Implemented.

Martina Sumenjak, Text and photo

The main actors of the Slovakian Biofuel development.

The second panel session was concentrated on bioenergy markets and bussiness

European commission

Campaign for the take-off

10 winners together with the Representatives of the EU Commision. EUFORES, EREC.

Carlos Robles Piquer, The First President of EUFORES had the opening speech for the reward ceremony.

Campaign for the take-off. Rewarding the best renewable energy partnerships 2003.

The Campaign for Take-off has been running for four years during which it has raised the support of over 700 local authorities, regions, institutions, energy agencies, associations and undertakings in 127 partnerships.

The European Community rewards now the ten foremost renewable energy partnerships involving local, regional and national authorities, organisations and companies.

All of them have successfully contributed to preserve the environment and the security of energy supply by more investments, better planning and foresight in the renewable energy sector.

Guenther Hanreich, Director, European Comission, DG Energy & Transport, awarded the Best among the Winners 2000 - 2003; O.Energiesparverband Austria

The winners

Best National Renewable Energy Partnership:
Promoting the development of renewable energy in Ireland, *Renewable Energy Information Office of the Sustainable Energy Authority of Ireland*

Best Regional Renewable Energy Partnership:
Energy planning in Navarra, *Goverment of Navarra Spain*

Best local Renewable Energy Partnership:
Pohjolan Voimas Bioenergy Program, *Pohjolan Voima Finland*

The list continues in the right column

Best renewable Energy Partnership for promotion:
The Soltherm Europe Initiative, *Ecofys BV, The Nederlands*

Best Renewable Energy Partnership with Industry:
St Microelectronics Italy

Best Renewable Energy Partnership with Developing countries:
World network on Bioenergy - a global repartnership *European Biomass Industry Association - EUBIA Belgium/ International*

Best Renewable Energy Partnership Rural Areas:
Varese Ligure 100 % sustainable, *Varese Ligure Municipality Italy*

Grand Prize 2003:
Third party financing and the take-off of renewable energysources in Spain , IDAE - The Spanish Institute for the Diversification and Savings of Energy Spain

Specail Prize 2003:
Renewable Energy for Nordrhein *WestfalenEnergy Agency, Nordrhein-Westfalen Germany*
** Best amongst the Winners 2000 - 2003: Energie 21 The energy action plan for the Upper Audtstra, O.ÖEnergiesparverband Austria*

Guenther Hanreich together with Martina Sumenjak

Eryl McNally member of the European Parliament presented the Conference conclusions and recommendations

Prof. Arthouros Zervos, the president of the European Renewable Energy Council (EREC).

Rothe Mechtild, member of the European Parliament and president of the European Forum for Renewable Energy Sources (Euphores).

Dr. Hermann Scheer, president of Eurosolar, member of the German Parliament moderated together with Roberto Vigotti, ENEL Green-power the panel discussion about supporting RES Electricity.

European Conference for Renewable Energy "Intelligent Policy Options"

From Berlin in January 2004 towards Bonn in June 2004

Opening speech by Juergen Trittin, Federal Environmental Minister, Ministry for the Environment, Nature Conservation and Nuclear Safety.

The Berlin Conference (19-21 January 2004) was organized in co-operation with the European Commission, the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, EREC (European Renewable Energy Council), EUFORES (European Forum for Renewable Energy Sources), INSULA (International Scientific Council for Island Development), and the Berlin Energy Agency.

Vice-President of the European Commission, Commissioner for Energy and Transport, Loyola de Palacio was holding the main patronage of the conference together with Jörgen Trittin, Federal Minister for Environment, Nature Conservation and Nuclear Safety.

The Conference was attended by over 600 participants from more than 45 countries.

The key players came from the public as well as the private sector.

The three days conference was organized in 10 highly interactive panels, regrouping more than 70 high level panel lists from all sectors of the business community.

They discussed policy issues related to the development of renewable energies.

The discussions range from the impact assessment of the European Renewable Energy Campaign for take-off to existing and needed legislation promoting RES and leaded to new recommendations for "Intelligent policy options" for further growth of renewable energy technologies.

Conclusions of each session can be downloaded from the managenergy (www.managenergy.org) and the EREC website (www.erec-renewables.org)

Martina Sumenjak

SUMMARY OF KEY RECOMMENDATIONS
acting as input for the Bonn Renewables 2004, 1-4 June:

1.Urge EU institutions to start a political process of setting ambitious, **time bound targets** for increasing the share of renewable energy in final energy consumption addressing the medium (2020) and long term time frames in due time to the renewables 2004 in Bonn. A target value of at least 20% of gross inland energy consumption by 2020 for the EU seems to be achievable.

2.**Accelerate the implementation** of renewable energy policy in order to reach the short term commitments up to 2010, in particular creating a level-playing field, tackling of administrative and grid barriers, through the strict enforcement of regulatory frameworks at local, national and international levels and assist accession and other European countries in that respect.

3.Develop regulatory frameworks for accelerating the growth of **markets for renewable energy heating and cooling**.

4.Disseminate and promote the **success stories** and benefits of renewable energy use to all sectors of society.

5.Strengthen and continue to adapt **support schemes** for renewable energy, in order to ensure that they offer long term financial security to investors in the EU.

6.Expand support for R&D and demonstration of renewable energies, with a view to further **reducing costs** and facilitating the large scale integration of RES into energy systems and markets.

7.Concerted global action for **removing the market barriers** to development of renewable energy and expecting the work of them Johannesburg Renewable energy coalition (JREC).

8.To faster the use of renewable energies basically in **developing countries** for poverty alleviation and sustainable development.

9.Develop new effective **public-private financing** instruments to encourage the market take up of renewable energy in developing countries.

10.The strategic importance and potential of renewable energy be borne in mind **in all the policy of the EU**.

Calendar

BIOENERGY international
www.bioenergyinternational.com

March

3 - 4
European Pellets Conference
Wels, Austria
www.esv.or.at/pellets04

3 - 5
World Sustainable Energy Days 2004
Wels, Austria
www.esv.or.at/wsed04

5 - 7
Erneuerbare Energien 2004
Böblingen, Germany
www.erneuerbareenergien.com

23 - 25
ENEX-New Energy 2004
7th International Fair of Renewable Sources of Energy
Kielce, Poland
www.targikielce.pl

31 - 2 April
Globe 2004
Vancouver, Canada
www.globe2004.com

April

1 - 4
Bois Energie Exhibition
Lons le Saunier, France
www.itebe-expo.org

7 - 9
REAsia 2004 - Asia Renewable Energy Conference and Exhibition
Beijing, China
www.gracefair.com

19 - 24
Hannover Fair 2004
Hannover, Germany
www.messe.de

29 - 30
International conference on Biofuel, Production technologies and Associated Industries
St. Petersburg, Russia
Russian Biofuel Association (RBA)
info@rba.com.ru

5 - 7
Energetika 2004
9th International exhibition of electrical engineering, energy supply and equipment
Riga,Latvija
www.expo-rasa.lv
www.prima.lv

10 - 14
2nd World Conference and Technology Exhibition on Biomass for Energy, Industry and Climate Protection
Palazzo dei Congressi, Rome, Italy
www.etaflorence.it
www.wip-munich.de

11 - 13
Victam International 2004, Exhibition and Conference
Jaarbeurs Halls, Utrecht
The Netherlands
www.victam.com

13
Pellets for Bioenergy, International Conference
Jaarbeurs Halls, Utrecht
The Netherlands
jossart@ecop.ucl.ac.bc
www.ecop.ucl.ac.be/aebiom
www.victam.com

25 - 27
All-Energy Opportunities
Aberdeen, UK
info@all-energy.co.uk
www.all-energy.co.uk

25 - 27
Power-Gen Europé 2004
Barcelona, Spain
sallyp@pennwell.com
www.powergeneurope.com

30 - 31
World Renewable Energy Forum 2004 - Global Benefits and Policies
Bonn, Germany
www.wcre.org

June

1 - 4
International Conference for Renewable Energies
Bonn, Germany
www.renewables2004.de

2 - 4
World Bioenergy 2004 Conference and exhibition on biomass for energy
Elmia - Svebio, Jönköping, Sweden
www.elmia.se/bioenergy
www.svebio.se/worldbioenergy

2 - 3
Bioenergy Conference and Exhibition 2004
At University of Northen British Columbia
Prince George, British Columbia, Canada
www.forestexpo.bc.ca
hroh@shaw.ca

16 - 19
14th KWF Forest Machinery and Innovations GroB-Umstadt, Germany
www.kwf-online.de

23 - 25
2 international Fair of Devices and Technologies for the Wood Pellets Industry
"PELLETS-EXPO"
Bydgoszcz, Poland
info@ctpik
www.ctpik.com.pl

August

28 - 3 September
World Renewable energy
Congress VIII
Denver, Colorado, USA
www.nrel.gov/wrec

September

5 - 9
19th World Energy Congress and Exhibition
Sydney, Australia
www.tourhosts.com.au/energy2004/

20 - 22
II International Ukrainian Conference on Biomass for Energy
Kyiv, Ukraine
www.biomass.kiev.ua/conf2

October

19 - 21
Energy Expos
Sustainable Energy, Energy Efficiency and Environmantal Solutions
Olympia, London,UK
www.energy-expo.info

21 - 24
HolzEnergie 2004
Augsburg, Germany
www.holz-energie.de

21 - 24
RENEXPO 2004
Augsburg, Germany
www.energie-server.de

November

15 - 16
VI International Conference
Slobiom 2004
RES for south east Europe 2020
Ljubliana, Slovenia
www.slobiom-zveza.si

2005

Mars - April

31 - 3
Mondial Bioenergie Exhibition, business meetings, Conference
Paris, France
www.itebe-expo.org

May

2-6
Ligna
World fair for the Forestry and Wood Industries
Hannover, Germany
www.messe.de

Welcome to World Bioenergy 2004 in Jönköping, 2-4 June 2004 Sweden Taking You from Know- how to Show - how

Dear Colleague

As You know there are nomeurous international highly qualified conferences on bioenergy to choose from.

What makes World Bioenergy 2004 different is our focus on the big picture.

Not only through the conference speakers but buy litterally taking You out and showing you how ideas have been converted to commercially viable solutions.

We have lots to show You

For example;
Sixty percent of the district heating systems in Sweden are heated using biomass. There is industrial production and use of solid, liquid and gaseous biofuels for a wide range of commercial and domestic sectors.

World Bioenergy 2004 makes full practical use of theese facts letting You to meet the people that are running these different bioenergy operations.

That is what sets World Bioenergy 2004 apart from any other conference.

Welcome to Jönkoping

Kent Nyström.

THE BIOENERGY international
Local news spread world wide
www.bioenergyinternational.com

March 2004

Bio-energy fuels, heating and co-generation solutions

TallOil has quarter-century long experience in renewable Bio-energy fuels.

We have storage facilities for **TallOil Blends** substituting Heavy Fuel Oil in Sweden, Finland and in the US.

TallOil has production and storage facilities for solid Biofuels in Sweden and in Latvia.

TallOil has its own harbour, production and storage facility for fuel wood, bark, wood chips, saw dust, pellets and briquets in Stockholm, Sweden.

TallOil has its own production and storage facility in the harbour of Liepaja, located on the west coast of Latvia.
We procure biomass raw materials in Scandinavia, in the Baltic Countries of Estonia, Latvia and Lithuania as well as in Poland, Russia, Belarus, and Ukraine.

We are able to provide large scale solutions for providing long term stable supplies of biomass fuels suitable for retrofit of coal fired power stations and heating boilers.

TallOil's Transport fuel division provides bioenergy substitutes to petrol and diesel fuel, such as RME and Bio-ethanol.

TallOil is 100 % dedicated to Renewable Biomass Energy.

TallOil

TallOil AB
Torsgatan 12, plan 3, 111 23 Stockholm
Tel: 08-109915 • Fax: 08-109923
sales@talloil.se • www.talloil.se

Bioenergy International is a new media product published by Bioenergi Förlag AB on the internet and on paper.

The internet adress is www.bioenergyinternational.com

visit also www.novator.se the Bioenenergy- and Environmentalsphere including the text and pdf archive of the Swedish magazines Bioenergi and Kretslopp.

Contact us
info@novator.se
+46-8-4417090 (tel)
+46-8-4417089 (fax)
Bioenergy International
Torsgatan 12
S-111 23 Stockholm
Sweden

Staff:
Editorial
Lennart Ljungblom
Anders Haaker
Dorota Natucka
Sofie Samuelsson
Martina Sumenjak
Marketing
Lennart Ljungblom
Dorota Natucka
Material and subscription
Jeanette Fogelmark
Internet
Mattias Ljungblom

Printing
Tabloidtryck, Norrtälje
Sweden

Advertisment
Please contact
Dorota Natucka
Sofie Samuelsson
Jeanette Fogelmark
dorota@novator.se
sofie@novator.se
jeanette@novator.se
+46-8-4417092 (tel)
+46-8-4417089 (fax)
Bioenergy International
Torsgatan 12
S-111 23 Stockholm

You can also find information on the web www.bioenergyinternational.com

Published in cooperation with AEBIOM the European Biomass Association